

§ 27.58

§ 27.58 Interference to MDS/ITFS receivers.

(a) WCS licensees shall bear full financial obligation to remedy interference to MDS/ITFS block downconverters if all of the following conditions are met:

(1) The complaint is received by the WCS licensee prior to February 20, 2002;

(2) The MDS/ITFS downconverter was installed prior to August 20, 1998;

(3) The WCS fixed or land station transmits at 50 or more watts peak EIRP;

(4) The MDS/ITFS downconverter is located within a WCS transmitter's free space power flux density contour of -34 dBW/m²; and

(5) The MDS/ITFS customer or licensee has informed the WCS licensee of the interference within one year from the initial operation of the WCS transmitter or within one year from any subsequent power increases at the WCS station.

(b) Resolution of the complaint shall be at no cost to the complainant.

(c) Two or more WCS licensees collocating their antennas on the same tower shall assume shared responsibility for remedying interference complaints within the area determined by paragraph (a)(4) of this section unless an offending station can be readily determined and then that station shall assume full financial responsibility.

(d) If the WCS licensee cannot otherwise eliminate interference caused to MDS/ITFS reception, then that licensee must cease operations from the offending WCS facility.

(e) At least 30 days prior to commencing operations from any new WCS transmission site or with increased power from any existing WCS transmission site, a WCS licensee shall notify all MDS/ITFS licensees in or through whose licensed service area they intend to operate of the technical parameters of the WCS transmission facility. WCS and MDS/ITFS licensees are expected to coordinate voluntarily, and in good faith to avoid interference problems and to allow the greatest operational flexibility in each other's operations.

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§ 27.59 [Reserved]

§ 27.60 TV/DTV interference protection criteria.

Base, fixed, control, and mobile transmitters in the 698-764 MHz and 776-794 MHz frequency bands must be operated only in accordance with the rules in this section to reduce the potential for interference to public reception of the signals of existing TV and DTV broadcast stations transmitting on TV Channels 51 through 68.

(a) *D/U ratios.* Licensees must choose site locations that are a sufficient distance from co-channel and adjacent channel TV and DTV stations, and/or must use reduced transmitting power or transmitting antenna height such that the following minimum desired signal-to-undesired signal ratios (D/U ratios) are met.

(1) The minimum D/U ratio for co-channel stations is:

(i) 40 dB at the hypothetical Grade B contour (64 dBμ V/m) (88.5 kilometers (55 miles)) of the TV station;

(ii) For transmitters operating in the 698-746 MHz frequency band, 23 dB at the equivalent Grade B contour (41 dBμ V/m) (88.5 kilometers (55 miles)) of the DTV station; or

(iii) For transmitters operating in the 746-764 MHz and 776-794 MHz frequency bands, 17 dB at the equivalent Grade B contour (41 dBμ V/m) (88.5 kilometers (55 miles)) of the DTV station.

(2) The minimum D/U ratio for adjacent channel stations is 0 dB at the hypothetical Grade B contour (64 dBμ V/m) (88.5 kilometers (55 miles)) of the TV station or -23 dB at the equivalent Grade B contour (41 dBμ V/m) (88.5 kilometers (55 miles)) of the DTV station.

(b) *TV stations and calculation of contours.* The methods used to calculate TV contours and antenna heights above average terrain are given in §§ 73.683 and 73.684 of this chapter. Tables to determine the necessary minimum distance from the 698-764 MHz or 776-794 MHz station to the TV/DTV station, assuming that the TV/DTV station has a hypothetical or equivalent Grade B contour of 88.5 kilometers (55 miles), are located in § 90.309 of this chapter and labeled as Tables B, D, and E. Values between those given in the

tables may be determined by linear interpolation. Distances for station parameters greater than those indicated in the tables should be calculated in accordance with the required D/U ratios, as provided in paragraph (a) of this section. The locations of existing and proposed TV/DTV stations during the period of transition from analog to digital TV service are given in part 73 of this chapter and in the final proceedings of MM Docket No. 87-268.

(1) Licensees of stations operating within the ERP and HAAT limits of § 27.50 must select one of four methods to meet the TV/DTV protection requirements, subject to Commission approval:

(i) Utilize the geographic separation specified in Tables B, D, and E of § 90.309 of this chapter, as appropriate;

(ii) When station parameters are greater than those indicated in the tables, calculate geographic separation in accordance with the required D/U ratios, as provided in paragraph (a) of this section;

(iii) Submit an engineering study justifying the proposed separations based on the actual parameters of the land mobile station and the actual parameters of the TV/DTV station(s) it is trying to protect; or,

(iv) Obtain written concurrence from the applicable TV/DTV station(s). If this method is chosen, a copy of the agreement must be submitted with the application.

(2) The following is the method for geographic separations.

(i) Base and fixed stations that operate in the 746-764 MHz and 777-792 MHz bands having an antenna height (HAAT) less than 152 m. (500 ft.) shall afford protection to co-channel and adjacent channel TV/DTV stations in accordance with the values specified in Table B (co-channel frequencies based on 40 dB protection) and Table E (adjacent channel frequencies based on 0 dB protection) in § 90.309 of this chapter. Base and fixed stations that operate in the 698-746 MHz band having an antenna height (HAAT) less than 152 m. (500 ft.) shall afford protection to adjacent channel DTV stations in accordance with the values specified in Table E in § 90.309 of this chapter, shall afford protection to co-channel DTV stations

by providing 23 dB protection to such stations' equivalent Grade B contour (41 dBμ V/m), and shall afford protection to co-channel and adjacent channel TV stations in accordance with the values specified in Table B (co-channel frequencies based on 40 dB protection) and Table E (adjacent channel frequencies based on 0 dB protection) in § 90.309 of this chapter. For base and fixed stations having an antenna height (HAAT) between 152-914 meters (500-3,000 ft.) the effective radiated power must be reduced below 1 kilowatt in accordance with the values shown in the power reduction graph in Figure B in § 90.309 of this chapter. For heights of more than 152 m. (500 ft.) above average terrain, the distance to the radio path horizon will be calculated assuming smooth earth. If the distance so determined equals or exceeds the distance to the hypothetical or equivalent Grade B contour of a co-channel TV/DTV station (i.e., it exceeds the distance from the appropriate Table in § 90.309 of this chapter to the relevant TV/DTV station), an authorization will not be granted unless it can be shown in an engineering study (see paragraph (b)(1)(iii) of this section) that actual terrain considerations are such as to provide the desired protection at the actual Grade B contour (64 dBμ V/m for TV and 41 dBμ V/m for DTV stations) or unless the effective radiated power will be further reduced so that, assuming free space attenuation, the desired protection at the actual Grade B contour (64 dBμ V/m for TV and 41 dBμ V/m coverage contour for DTV stations) will be achieved. Directions for calculating powers, heights, and reduction curves are listed in § 90.309 of this chapter for land mobile stations. Directions for calculating coverage contours are listed in §§ 73.683 through 73.685 of this chapter for TV stations and in § 73.625 of this chapter for DTV stations.

(ii) Control, fixed, and mobile stations (including portables) that operate in the 776-777 MHz and 792-794 MHz bands and control and mobile stations (including portables) that operate in the 698-746 MHz, 747-762 MHz and 777-792 MHz bands are limited in height and power and therefore shall afford protection to co-channel and adjacent